In The Claims:

Add new claims 2-44 as follows:

--2. (New) A method of detecting an analyte in a sample, which method comprises the steps of:

(a) contacting the sample with an oligo- or polynucleotide comprising at least one compound selected from the group consisting of:

(i) a nucleotide having the formula PM-SM-BASE-Sig wherein

PM is a phosphate moiety,

SM is a sugar moiety,

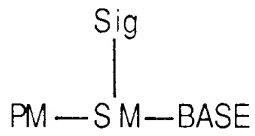
BASE is a pyrimidine, purine or 7-deazapurine moiety, and

Sig is a detectable moiety,

wherein PM is attached at the 3' or the 5' position of the sugar moiety SM when said nucleotide is a deoxyribonucleotide and at the 2', 3' or 5' position when said nucleotide is a ribonucleotide, BASE is attached to the 1' position of SM from the N^1 position when BASE is a pyrimidine or the N^9 position when BASE is a purine or a 7-deazapurine, and Sig is covalently attached to BASE at a position other than the C^5 position when BASE

is a pyrimidine, at a position other than the C^8 position when BASE is a purine and at a position other than the C^7 position when BASE is a 7-deazapurine;

(ii) a ribonucleotide having the formula



wherein

PM is a phosphate moiety,

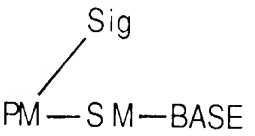
SM is a sugar moiety,

BASE is a pyrimidine, purine or 7-deazapurine moiety, and

Sig is a detectable moiety,

wherein PM is attached at the 2', 3' or 5' position of SM, BASE is attached to the 1' position of SM from the N^1 position when BASE is a pyrimidine or the N^9 position when BASE is a purine or a 7-deazapurine, and Sig is covalently attached to SM; and

(iii) a nucleotide having the formula



wherein

PM is a phosphate moiety,

SM is a sugar moiety,

BASE is a pyrimidine, purine or 7-deazapurine, and

Sig is a detectable moiety,

wherein PM is attached to the 3' or the 5' position of SM when said nucleotide is a deoxyribonucleotide and at the 2', 3' or 5' position when said nucleotide is a ribonucleotide, BASE is attached to the 1' position of SM from the N^1 position when BASE is a pyrimidine or the N^9 position when BASE is a purine, and Sig is covalently attached to PM; and

(b) detecting the presence of any of the oligo- or polynucleotides which have bound to said analyte.--

--3. (New) The method of claim 2 wherein Sig is a moiety containing at least three carbon atoms.--

--4. (New) The method of claim 2 wherein Sig comprises a monosaccharide, polysaccharide or an oligosaccharide.--

--5. (New) The method of claim 2 wherein Sig comprises a component selected from the group consisting of biotin or iminobiotin, an electron dense component, a magnetic component, an enzyme, a hormone component, a radioactive component, a metal-containing component, a fluorescent component, an antigen, hapten or antibody component, a chelating component and a chemiluminescent component.--

--6. (New) The method of claim 5 wherein Sig comprises an electron dense component.--

--7. (New) The method ofclaim 6 wherein said electron dense component comprises ferritin.--

--8. (New) The method of claim 5 wherein Sig comprises a magnetic component.--

--9. (New) The method of claim 8 wherein said magnetic component comprises magnetic oxide or magnetic iron oxide.--

--10. (New) The method of claim 8 wherein said magnetic component comprises magnetic beads.--

--11. (New) The method of claim 2 wherein Sig is a sugar residue and the sugar residue is complexed with or attached to a sugar or a polysaccharide binding protein.--

--12. (New) The method of claim 11 wherein the protein is a lectin.--

--13. (New) The method of claim 12 wherein the lectin is Concanavalin A.--

--14. (New) The method of claim 12 wherein the lectin is conjugated to ferritin.--

--15. (New) The method of claim 5 wherein Sig comprises a chemiluminescent component.--

--16. (New) The method of claim 5 wherein Sig comprises a radioactive isotope.--

--17. (New) The method of claim 5 wherein Sig comprises an enzyme.--

--18. (New) The method of claim 17 wherein the enzyme is selected from the group consisting of alkaline phosphatase, acid phosphatase, ß-galactosidase, ribonuclease, glucose oxidase and peroxidase, or a combination thereof.--

--19. (New) The method of claim 5 wherein Sig comprises a fluorescent component.--

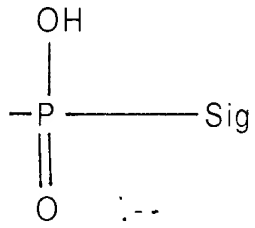
--20. (New) The method of claim 19 wherein the fluorescent component is selected from the group consisting of fluorescein, rhodamine and dansyl.--

--21. (New) The method of claim 5 wherein Sig comprises an antigenic or hapten component capable of complexing with an antibody specific to the component.--

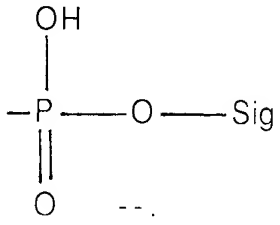
--22. (New) The method of claim 5 wherein Sig comprises a catalytic metal-containing component.--

--23. (New) The method of claim 2 wherein Sig is detectable when the oligo- or polynucleotide is contained in a double-stranded ribonucleic or deoxyribonucleic acid duplex and which is attached to the nucleotide directly or through a linkage group which does not interfere substantially with the characteristic ability of Sig to form a detectable signal.--

--24. (New) The method of claim 2 wherein Sig in said nucleotide (iii) is covalently attached to PM via the chemical linkage



--25. (New) The method of claim 24 wherein said chemical linkage is



--26. (New) The method of claim 2 wherein the oligo-or polynucleotide is terminally ligated or attached to a polypeptide.--

--27. (New) The method of claim 2 wherein the contacting further comprises contacting the sample with a polypeptide capable of forming a complex with Sig and a moiety which can be detected when the complex is formed.--

--28. (New) The method of claim 27 wherein the polypeptide comprises a polylysine.--

--29. (New) The method of claim 27 wherein the polypeptide comprises at least one avidin, streptavidin or anti-Sig immunoglobulin.--

--30. (New) The method of claim 27 wherein Sig is a ligand and the polypeptide is an antibody thereto.--

--31. (New) The method of claim 27 wherein the moiety which can be detected when the complex is formed is selected from the group consisting of biotin or iminobiotin, an electron dense component, a radioactive component, a metal-containing component, a fluorescent component, an antigen, hapten or antibody component, a chelating component and a chemiluminescent component, or a combination thereof.--

--32. (New) The method of claim 2 wherein the target is a nucleic acid sequence derived from a living organism.--

--33. (New) The method of claim 32 wherein the living organism is selected from the group consisting of prokaryotes and eukaryotes.--

--34. (New) The method of claim 2 wherein the sample is suspected of containing an etiological agent and the target nucleic acid sequence is naturally associated with the etiological agent.--

--35. (New) The method of claim 34 wherein the sample is of human or animal origin and the etiological agent is selected from the group consisting of bacteria, virus and fungi.--

--36. (New) The method of claim 2 wherein the sample comprises a bacterium suspected of containing a target nucleic acid sequence which imparts resistance to an antibiotic wherein the compound of claim 2 comprises a polynucleotide complementary to the sequence of the bacterium which confers resistance to the antibiotic.--

--37. (New). The method of claim 36 wherein the bacterium is selected from the group consisting of *Staphylococcus*, *Pseudomonas*, *Streptococcus*, *Neisseria*, and *Mycobacterium*.--

--38. (New) The method of claim 36 wherein said antibiotic is selected from the group consisting of penicillin, tetracycline and aminoglycoside.--

--39. (New) The method of claim 37 wherein said antibiotic is selected from the group consisting of penicillin, tetracycline and aminoglycoside.--

--40. (New) The method of claim 2 wherein the sample is suspected of containing a target nucleic acid sequence associated with a genetic disorder and wherein the compound recited in claim 2 comprises a polynucleotide complementary to the sequence associated with the genetic disorder.--

--41. (New) The method of claim 2 wherein the sample is suspected of containing a target nucleic acid sequence associated with thalassemia and wherein the compound recited in claim 2 comprises a polynucleotide complementary to the sequence which is absent in the thalassemic subjects.--

--42. (New) The method claim 2 utilized for chromosomal karyotyping which comprises contacting the sample with a series of the compounds recited in claim 2 which are complementary to a series of known genetic sequences located on chromosomes.--

--43. (New) The method of claim 2 wherein the sample is suspected of containing a target polynucleotide which includes a terminal polynucleotide sequence poly A and wherein the compound recited in claim 2 comprises a modified poly U molecule in which at least one uracil moiety has been modified by chemical addition at the 5' position of Sig.--

--44. (New) The method of claim 2 wherein said method is utilized to determine the number of copies of an individual chromosome in a sample.--

Cancel claim 1.

In The Abstract of the Disclosure:

Replace the originally submitted Abstract with new page 141 attached hereto as Exhibit A.

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